

Figure 1

Clone S1+27 protein sequence (SEQ ID No. 1)

1 KSSPLLIRMEESLNIVKYTAFLYNDQLIWSGLEQDDMRILYKYLTTSLFP 50  
51 RHIEPELAGRDSPIRAEMPGNLQHYGRFLTGPLNLNDPDAKCRFPKIFVN 100  
101 TDDTYEELHLIVYKAMSAAVCFMIDASVHPTLDFCRRLDSIVGPQLTVLA 150  
151 SDICEQFNINKRMSGSEKEPQFKFIYFNHNMNLAEKSTVHMRKTPSVSLTS 200  
201 VHPDLMKILGDINSDFTRVDEDEEIIIVKAMSDYWVVGKKSDDRRELYVILN 250  
251 QKNANLIEVNEVKKLCATQFNNIFFLD 277

Figure 2

Clone S1+28 protein sequence (SEQ ID No. 2)

1 FAVDAKALPQNKPRPLTQEEIAQRRERARQRHAEKLAAAQGQAPLEPTQD 50  
51 GSAIETCPKGDEPRGDEQQVESMTPKPVQLQEENNQESFIAFARVFSGVAR 100  
101 RGKKIFVLGPKYSPLEFLRRVPLCFSAAPPDGLPQVPHMAYCALENLYLLM 150  
151 GRELEYLEEVPPGNVLGIGGLQDFVLKSATLCSLPSCPPFIPLNFEATPI 200  
201 VRVAVEPKHPSEMPQLVKGMKLLNQADPCVQILIQETGEHVLVTAGEVHL 250  
251 QRCLDDLKERFAKIHISVSEPIIPFRETITKPPKVD MVNEEIGKQQKVAV 300  
301 IHQMKEDQSKIPEGIQVDS DGLITITTPNKLATLSVRAMPLPEEVTQILE 350  
351 ENSDLIRSMEQLTSSLNEGENTHMIHQKTQEKIWEFKGKLEQHLTGRWR 400  
401 NIVDQIWSFGPRKCGPNILVNKSEDFQNSVWTGPADKASKEASRYRDLGN 450  
451 SIVSGFQLATLSGPMCEEPLMGVCFVLEKWDLSKFEEQGASDLAKEDRRK 500  
501 MKPVLVEMKTKSYKMAALRPLRRGHHRKENLHSLTAMDLSQDS 543

Figure 3

Clone S1+19 protein sequence (SEQ ID No. 3)

1 MKAVKSERERGSRRRHRDGDVVLPAQVVKQERLSPEVAPPAHRRPDHSG 50  
51 GSPSPPTSEPARSGHRGNRARGVSRSPPKKKNKASGRRSKSPRSKRNRSP 100  
101 HHSTVKVKQEREDHPRRGREDRQHREPSEQEHRRARNSDRDRHRGHSHQR 150  
151 RTSNERPGSGQGQGRDRDTQNLQAQEEEREFYNARRREHRQRNDVGGGGS 200  
201 ESQELVPRPGGNNKEKEVPAKEKPSFELSGALLEDTNTFRGVVIKYSEPP 250  
251 EARIPKKRWRLYPFKNDEVLPVMYIHRQSAYLLGRHRRRIADIPIDHPSCS 300  
301 KQHAVFQYRLVEYTRADGTVGRRVKPYIIDLGSGNGTFLNNKRIEPQRY 350  
351 ELKEKDVLKFGFSSREYVLLHESDTSSEIDRKDDDEDEEEEEVSDS 396

Figure 4

Protein sequence of NIPP-1 domain (SEQ ID No. 4) homologous to SNIP 1.

1 YLFGRNPDLCDFTHQSCSRVHAALVYHKHLKRVFLIDLNSTHGTFLGH 50

51 IRLEPHKPQQIPIDSTVSFGASTRAYTLREKP 82

Figure 5

Clone S1+19 Smad binding domain protein sequence (SEQ ID No. 5)

1 RHRGSHSHQRRTSNERPGSGQGQGRDRDTQNLQAQEEEREFYNNARRREHRQ 50  
51 RNDVGGGGSESQELVPRPGGNNKEKEVPAKEKPSFELSGALLEDTNTFRG 100  
101 VVIKYSEPPEARIPKKRWRLYPFKNDEVLPVMIHRQSAYLLGRHRRRIAD 150  
151 IPIDHPSCSKQHAFVQYRLVEYTRADGTVGRRVKPYIIDLGSGNGTFLNN 200  
201 KRIEPQRYVELKEKDVLFKFGFSSREYVLLHESSDTSEIDRKDDDEDEEEEEE 250  
251 EVSDS 255

Figure 6

Clone S1+19 *C. elegans* homology protein sequence

(SEQ ID No. 6)

1 GALTEDTNTFRGVVIKYNEPPEAKKPNARWRLYPFKGEESLQVLYIHRQS 50  
51 AYLIGRDHKKIADIPVDHPSCSKQHAVLQFRSMPFTRDDGTKARRIMPYII 100  
101 DLGSGNGTFLNEKKIEPQRYIELQEKDMLKFGFSTREYVVMKEREITEEE 150  
151 LAEGEDVKKEESD 163

Figure 7

Clone S1+12 protein sequence (SEQ ID No. 7)

1 EFGTRRMMEGLDDGPDFLSEEDRGLKAINVDLQSDAALQVDISDALSERD 50  
51 KVKFTVHTKSSLPNFKQNEFSVVRQHEEFIWLHDSFVENEDYAGYIIPPA 100  
101 PPRPDFDASREKLQKLGEGECSMTKEEFTKMKQELEAEYLAIFKKTVMAMH 150  
151 EVFLCRVAAHPIILRRDLNFHFVLEYNQDLSVRGKKKKKNSRSFGLLRQ 198

Figure 8

Clone S1+12-2 protein sequence (SEQ ID No.8)

1 HASGLGAAMMEGLDDGPDFLSEEDRGLKAINVDLQSDAALQVDISDALSE 50  
51 RDKVKFTVHTKSSLPNFKQNEFSVVRQHEEFIWLHDSFVENEDYAGYIIP 100  
101 PAPPRPDFDASREKLQKLGEGECSMTKEEFTKMKQELEAEYLAIFFKKTVA 150  
151 MHEVFLCRVAAHPILRRDLNFHVFLEYNQDLSVRGKNKKEKLEDDFFKNMV 200  
201 KSADGVIVSGVKDVDDFFEHERTFLLEYHNRVKDASAKSDRMTRSHKSAA 250  
251 DDYNRIGSSLYALGTQDSTDICKFFLKVSELFDKTRKIEARVSADEDLKL 300  
301 SDLLKYYLRESQAAKDLLYRRSRSLVDYENANKALDKARAKNKDVLQAET 350  
351 SQQLCCQKFEEKISESAKQELIDFKTRRVAAFRKNLVELAELELKHAKGNL 400  
401 QLLQNCLAVLNGDT 414



Figure 9

Clone S1+12-5 protein sequence (SEQ ID No.9)

1 MTTLTEIKLLPSLVLLVCCEYLAIFKKTVMHEVFLCRVAAHPILRRDLN 50  
51 FHVFLLEYNQDLSVRGKNKKEKLEDDFFKNMVKSADGVIVSGVKDVDDFFEH 100  
101 ERTFLLEYHNRVKDASAKSDRMTRSHKSAADDYNRIGSSLYALGTQDSTD 150  
151 ICKFFLKVSELFDKTRKIEARVSADEDLKLSDLLKYLRRESQAAKDILLYR 200  
201 RSRSLVDYENANKALDKARAKNKDVLQAETSQQLCCQKFEEKISESAKQEL 250  
251 IDFKTRRVAAFRKNLVELAELELKHAKGNLQLLQNCLAVLNGDT 294

Figure 10

Clone S3+1 DNA sequence (SEQ ID No. 10)

1 ATGTCAAGTGGAATTTGGCAGAGAGGCAAAGAAGAAGAAGGAGTTTATGG 50  
51 TTTTCTAATAGAAGATATCAGGAAGGAAGTGAATAGAGCTTCTAAACTGA 100  
101 AATGCTGTGTTTGCAAGAAAAATGGTGCTTCAATTGGATGTGTTGCACCC 150  
151 CGATGTAAACGAAGTTATCATTTCCTCATGTGGACTTCAGAGAGAATGTAT 200  
201 TTTCCAGTTTACTGGCAATTTTGCGTCATTTTGTTGGGACCATCGACCTG 250  
251 TTCAAATAATTACATCTAATAATTATAGAGAGTCCTTACCATGCACCATT 300  
301 TGCTTGGAATTTATTGAGCCTATTCCAAGTTATAACATATTACGAAGTCC 350  
351 TTGTTGTAAGAACGCTTGGTTTCATAGAGACTGTTTACAGGTTCAAGCAA 400  
401 TAAATGCGGGAGTGTTTTTCTTTAGGTGTACAATATGCAATAATAGTGAC 450  
451 ATCTTTCAGAAAGAGATGTTGAGAATGGGAATTCATATTCCTGAAAAAGA 500  
501 TGCTTCCTGGGAATTAGAGGAAAACGCTTATCAAGAGCTTCTGCAGCACT 550  
551 ATGAGCGTTGTGATGTTCTGAAGATGTCGTTGCAAAGAAGGGCGAGACTAT 600  
601 AATGCACCTGATAGCAAATGGGAAATAAAGCGCTGTCAGTGTTGTGGTTC 650  
651 CAGTGGCACACATTTAGCCTGCTCCTCATTACGGTCATGGGAGCAAATTT 700  
701 GGGAGTGTTTGGAATGTAGGGGTATTATCTACAATTCAGGAGAGTTCCAA 750  
751 ACAGCCAAAAAACATGTATTACCCAATTCTAATAATGTGGGGATTACAGA 800  
801 TTGTTTGTTGGAAGAGTCATCACCTAAATTACCCAGACAGTCACCTGGAT 850  
851 CCCAGAGTAAAGATCTACTGAGGCAAGGCAGCAAATTTAGAAGAAATGTA 900  
901 TCAACACTATTAATAGAGTTAGGATTCCAAATTAAAAAAAAAAAAAAAAAA 950  
951 ACTCGAGAAGNTTGGANTNTTCGCCAGAGGTTTGGTCAA 989

Figure 11

Clone S3+1 protein sequence (SEQ ID No. 11)

1 MSSGIWQRGKEEEGVYGFLLIEDIRKEVNRASKLKCCVCKKNGASIGCVAP 50  
51 RCKRSYHFPCGLQRECIFQFTGNFASFCWDHRPVQIITSNNYRESLPCTI 100  
101 CLEFIEPIPSYNILRSPCKNAWFHRDCLQVQAINAGVFFFRCTICNNSD 150  
151 IFQKEMLRMGIHIPEKDASWELEENAYQELLQHYERC DVRRRCRCKEGRDY 200  
201 NAPDSKWEIKRCQCCGSSGTHLACSSLR SWEQNWECLECRGIIYNSGEFQ 250  
251 TAKKHVLPNSNNVGITDCLLEESSPKLPRQSPGSQSKDLLRQGSKFRRNV 300  
301 STLLIELGFQIKKKKKKLEKXGXFARGLV 329

Figure 12

Clone S3+12 DNA sequence (SEQ ID No. 12)

```

1  AGGAAAGCTACAGAAATTAGCACTGCAGTGGTTCAGAGGTCAGCTACCAT 50
51 TGGCAGTTCTCCAGTTCTCTATAGCCAGTCAGCTATAGCTACAGGTCACC 100
101 AGGCAGCAGGGATTGGAAACCAGGCAACAGGAATTGGACATCAGACAATA 150
151 CCAGTTAGCCTTCCAGCAGCAGGAATGGGTCATCAGGCCAGAGGAATGAG 200
201 CCTGCAGTCAAATTACCTTGGACTAGCGGCAGCACCTGCAATTATGAGTT 250
251 ATGCAGAATGTTCTGTCCCAATTGGAGTGAAGTCTCCCTCATTGCAGCCA 300
301 GTTCAGGCCCCGAGGTGCTGTGCCTACCGCTACCATTATAGAACCACCACC 350
351 ACCACCTCCTCCTCCTCCTCCTCCTCCTCCTCCTCCTCCTCCTCCTCCT 400
401 CACCTGAAAAGACAAAAAAGGAAGGAAAGACAAGGCAAAGAAGAGTAAG 450
451 ACCAAAATGCCATCTTTGGTAAAAAAGTGGCAGAGTATCCAGCGTGAGTT 500
501 AGATGAAGAGGACAATTCTAGTTCCAGTGAAGAGGATCGGGAATCAACTG 550
551 CACAGAAGCGAATTGAAGAGTGGAAACAGCAGCAGCTGGTTAGTGGCATG 600
601 GCAGAGAGAAATGCTAATTTTGAAGCCCTTCCTGAGGATTGGAGAGCAAG 650
651 GCTGAAGAGAAGGAAAATGGCTCCAAACACATAGTTTTTAAGTTTTTAAA 700
701 ACTTTTTTGTATTATTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTT 750
751 TTTTATTGTCAAATAAACTATAAATGTTATGGGGGAGATCTTATAAATTT 800
801 CCTGGGCAAGAGTGTATGCATACAAAGTTTTTCACTTTTGTGAAATGTAAT 850
851 TTTTCTGTTTTTGTCAAAGGGATGAGGTGATTGGAATTGCTTTGACCATGC 900
901 TGCCTTTATTCTCAAACCTGGCAAACCTTAGCATGTTAGGTGTATTAACCTC 950
951 ATCAGTCTTGAAGAACATGTGGCTCATGAGTATAACACTTCTGTAGAGGA 1000
1001 CTCCCTGACAAAAGTGAAGAATTAACCTTCTCCTCCAGAACAAGTGCAATT 1050
1051 CAGAAGGCAGCTCTGCATTCTACCTTGCTTGACTGGAATTGTCTGAAGCT 1100
1101 TTTTCTGGCCTCTTTTCTCTAGTCGGCCACCCCTGAAGTGCTGAGGTCTA 1150
1151 AGTGGTTTACCTCGTGCTGATAGATGGCCACACTCTTTAGAGTAGTTCTC 1200
1201 ATAAGTTCTAGAACTGGTAGCTCGGTCGTTTTCGCACACTAGGTGGCATA 1250
1251 AGGCAGCAGCAGGTGTTTCATATCCTTGATTTTGAGAATTTCCCCTCAAGT 1300
1301 ATGTGGCAGTAAATACAACAAGACACTCTATGTATTAATGTCTCCATTGT 1350
1351 CTTAACCTGTTCCAAACAAAATTCACCTCCTTTCTTTATGTGAATGTA 1400
1401 TTCTCCATAAAATTCAGTATTTAAAAAGCAGTTTACTGTTCTGTACTTT 1450
1451 CTGTTGTATCACAATCAGGTAAAAGTCACTTTAAACTGAGGAAACGGCAA 1500
1501 ATTGTGTTTTTAAAGCTCTTTGTATTTCTCCAGTTTCTGACCTTGTAATT 1550
1551 TGTATATATGCACTAATAAAGCTTTTTTTTATAATCCTGAAAAAAAAAAAA 1600
1601 AAAAAAAAAAAAAAACTCGAGAAGCTTTGGACTTCTTCGCCAGAGGTTTGG 1650
1651 TCAAGTCTCCAATCAAGGTTGTC 1673

```

Figure 13

Clone S3+12 protein sequence (SEQ ID No. 13)

1 EFGTRRRKATEISTAVVQRSATIGSSPVLYSQSAIATGHQAAGIGNQATG 50  
51 IGHQTIPVSLPAAGMGHQARGMSLQSNYLGLAAAPAIMSYAECSVPIGVT 100  
101 APSLQPVQARGAVPTATIIIEPPPPPPPPPPPPPPPPAPKMPPPEKTKKGRKD 150  
151 KAKKSKTKMPSLVKKWQSIQRELDEEDNSSSSEEDRESTAQKRIE EWKQQ 200  
201 QLVSGMAERNANFEALPEDWRARLKRRKMAPNT 233

Figure 14

Clone S3+103 DNA sequence (SEQ ID No. 14)

1 GAATTCGGCACGAGGCGGACGTCATTGAGCTGCGACCCTTGTTCAACGCC 50  
51 GTTGGGCAAGCCAGCTGCTGGAGGTGCCGAGAATCTGAGTTTCGGCAAGC 100  
101 AGCCAGGTCTGGAAACTAATATTTTAAAAATGACTACACCAAACAAGACA 150  
151 CCTCCTGGTGCTGACCCCAAGCAGTTGGAAAGGACTGGAACAGTACGGGA 200  
201 AATTGGGTCACAAGCTGTTTGGTCACTCTCATCTTGCAAACCAGGATTTG 250  
251 GAGTGGATCAGTTACGAGATGACAATCTAGAAACTTATTGGCAATCAGAT 300  
301 GGTTCCCAGCCTCATTTAGTGAACATCCAATTCAGAAGAAAAACAACAGT 350  
351 GAAGACATTATGTATTTATGCAGACTACAAATCTGATGAAAGCTATACTC 400  
401 CAAGCAAGATCTCAGTCAGAGTAGGAAATAATTTTCACAACCTTCAAGAA 450  
451 ATTCGGCAACTTGAGTTGGTGGAAACCAAGTGGCTGGATTCATGTTCCCTT 500  
501 AACTGACAATCATAAGAAGCCAACTCGTACATTCATGATACAGATTGCTG 550  
551 TTCTAGCCAATCACCAGAATGGAAGAGACACCCATATGAGACAAATTAAA 600  
601 ATATACACACCAGTAGAAGAGAGCTCCATTGGTAAATTTCCCTAGATGTAC 650  
651 AACTATAGATTTTCATGATGFATCGTTCAATAAGGTGACTTTAAAATGAGA 700  
701 CGAAAATCATTAACGTATCTTTGTTCTTATCCTGTATTTAAATAATATA 750  
751 TCATGTACCTTTATTGAACAAGGCATCCGTTATATCTAATTTTGTATATG 800  
801 TTAAAAATATTTTATTGTAACCTTTGACAAATAAATTTGGGGTCATATTA 850  
851 TCTTTATTTTCTTTAACATGTAATAAAGCTCACATATTTTACATTAAAAA 900  
901 AAAAAAAAAAAAAAAAAAACTCGAGAAG 926

Figure 15

Clone S3+103 protein sequence (SEQ ID No. 15)

1 EFGTRRTSLSCDPCSTPLGKPAAGGAENLSFGKQPGLETNILKMTTPNKT 50  
51 PPGADPKQLERTGTVREIGSQAVWSLSSCKPGFGVDQLRDDNLETYWQSD 100  
101 GSQPHLVNIQFRRKTTVKTLCIYADYKSDESYTPSKISVRVGNNFHNLQE 150  
151 IRQLELVEPSGWIHVPLTDNHKKPTRTFMIQIAVLANHQNGRDTHMRQIK 200  
201 IYTPVEESSIGKFPRCTTIDFMMYRSIR\*L\*NETKIIKRIFVLILYLNNI 250  
251 SCTFIEQGIRYI\*FCICLKIFYCNFDK\*IWGHIIFFIFNM\*\*SSHILH\*K 300  
301 KKKKKNSR 308

Figure 16

Clone S3+125 DNA sequence (SEQ ID No. 16)

1 CAGGAATCTGTCCGAAGATAATTGAGGCAGAAGAGTCCAGAATGGGCCTC 50  
51 ATCATCGTCAATGCCTGGTACGGGAACTTTGTCAATGACAAGAGCAGGAA 100  
101 GAGCGAGAAGGTGAAGGTGATTGACGTGACTGTGCCCTGCAGTGCCTGGG 150  
151 TAAGGACTCGAAGCTCATCCTCACGAGGCCTCCAAGCTGGGCTGCCTGGC 200  
201 TTTTATGACCCGTGTGTGGGGGAAGAGAAGAACCTGAAAGTGCTCTATCA 250  
251 GTTCCGGGGCGTCCTGCATCAGGTGATGGTGCTGGACAGTGAGGCCCTCC 300  
301 GGATACCAAAGCAGTCCCACAGGATCGATACAGATGGATAAACTGCCAAG 350  
351 AACCAGATTTTTTAAAAGGCCGCAAAAAATCTTTTCCTGGGAGTCTACAAA 400  
401 TTTGGAAATGAAAAAACCAGACATCAGATGTTTTTATTTTATATTATTA 450  
451 TTATAGAAGGTGGTACCATTATCAATTATGTGAAGGGACATGCAGACACC 500  
501 CCAGCACTGGTATCTGAGTAACGGCTAAGAACCTCCTTCCTCTGGTTTTG 550  
551 AAAAGCAGTTCGGGTTGTCCAATTCTGTAACATTCATCTCCATTTTTTTAA 600  
601 AAAGGTTTCTCTGACGGCCCCACGGCCCGAGCCGCGGTGAGCGTCGTGTT 650  
651 GCATGAGCCTGGGCCCCGGGCTTCCCGTGCGCCTCTGCCGCAGGTGCTTC 700  
701 TGGGCACCCATCCTCTGCGTTTCATTTGCAGTCGACTGTACAGAAGGCAC 750  
751 TCACCACAATAAACCTTTCCTGAAAGCAAAAAAAAAAAAAAAAAAACTCG 800  
801 AGAAGGTTTGGACTTGTTCCGCCAGAGGTTTGGTCAAGTNTCCAA 844



Figure 17

Clone S3+125 protein sequence (SEQ ID No. 17)

1 IRHEAAGICPKIIIEAESRMGLIIVNAWYGNFVNDKSRKSEKVKVIDVTV 50  
51 PCSAWVRTRSSSSRGLQAGLPGFYDPCVGEEKNLKVLYQFRGVLHQVMVL 100  
101 DSEALRIPKQSHRIDTDG 118

0992738-081001

Figure 18

Clone S1+30 DNA sequence (SEQ ID No. 18)

1 GAATTCGGCACGAGGCGGACAAAGGGAATCAAAGTTGTGGGAAAATGGAA 50  
51 GGAAGTGAAGATTGACCCAAATATGTTTGCAGATGGACAGATGGATGACT 100  
101 TGGTGTGCTTTGAGGAATTGACAGATTACCAGTTGGTCTCCCCTGCCAAG 150  
151 AATTCCTCCAGCTCTCTTCTCAAAGGAAGCACCCAAGAGAAAGGCACAA 200  
201 GCTGTTTCAGAAGAAG 216

Figure 19

Clone S1+30 protein sequence (SEQ ID No. 19)

1 EFGTRRTKGIKVVGKWKEVKIDPNMFADGQMDDLVCFEELTDYQLVSPAK 50  
51 NSLQLSSQRKHPREERHKLFQKK 72

0952738-031001

Figure 20

Clone S3+14 5' DNA sequence (SEQ ID No. 20)

1 CGATTTCTAGCGTATATGGAGGATCGCAGAAAACAGAAGTGGCAAAGATG 50  
51 TAAAAAAAATAATAAGGCAGAATTGAACTGTTTGGGAATGGAACCAGTAC 100  
101 AGACAGCTAACTCTAGAAATGGGAAAAAGGGTCATCACACTGAAACGGTG 150  
151 TTCAACCGGGTTTTGCCAGGGCCTATTGCACCAGAGAGCAGCAAGAAGCG 200  
201 GCCCGTAGATGCGACCAGACCTTTCTAAGATGATGGCCCTCATGCAGGTG 250  
251 GAAGCATCGGT 261

Figure 21

Clone S3+14 3' DNA sequence (SEQ ID No. 21)

1 AGAGGCCCTCATGCAGGGTGGGAAGCACTGGGTCTCTATCTCTGCATAACA 50  
51 CGTTCCAACACAGCAGTAGTGGCCTACAGTCTGTGTCATCTTTGGGTCAC 100  
101 AGCAGTGCCACTTCTGCATCTTTGCCTTTTATGCCATTTGTGATGGGTGG 150  
151 TGCACCATCATCCCCTCATGTAGACTCCAGCACCATGCTTCATCACCACC 200  
201 ACCACCACCCCCACCCCCACCATCACCACCATCACCATCCAGGCTTGAGA 250  
251 GCCCCTGGCTACCCCTCTTCACCAGTGACTACCGCCTCTGGTACTACCTT 300  
301 GCGGTTGCCACCACTGCAACCTGAGGAGGATGACGATGAGGATGAAGAAG 350  
351 ATGATGATGACTTATCTCAGGGCTATGATAGCTCAGAAAGGGACTTCTCA 400  
401 CTCATTGATGATCCTATGATGCCAGCTAACTCAGACTCCAGTGAAGATGC 450  
451 TGATGACTGAAGCCCCAGCATGGGCCCCATTGCTTGGGCGGCTGCTGTAT 500  
501 TTTCATTTACTCTGGCCCTTGGACTATGGAAACGTGGGAGGGGCAGG 547

Figure 22

Clone S3+14 protein sequence (SEQ ID No. 22)

1 EALMQGGSTGSLSLHNTFQHSSSGLQSVSSLGHSSATSASLPFMPFVMGG 50  
51 APSSPHVDSSTMLHHHHHHHPHPHHHHHHHPGLRAPGYPPSSPVTTASGTTL 100  
101 RLPPLQPEEDDDDEDEEDDDDL SQGYDSSERDFSLIDDPMPANSDSSEDA 150  
151 DD 152

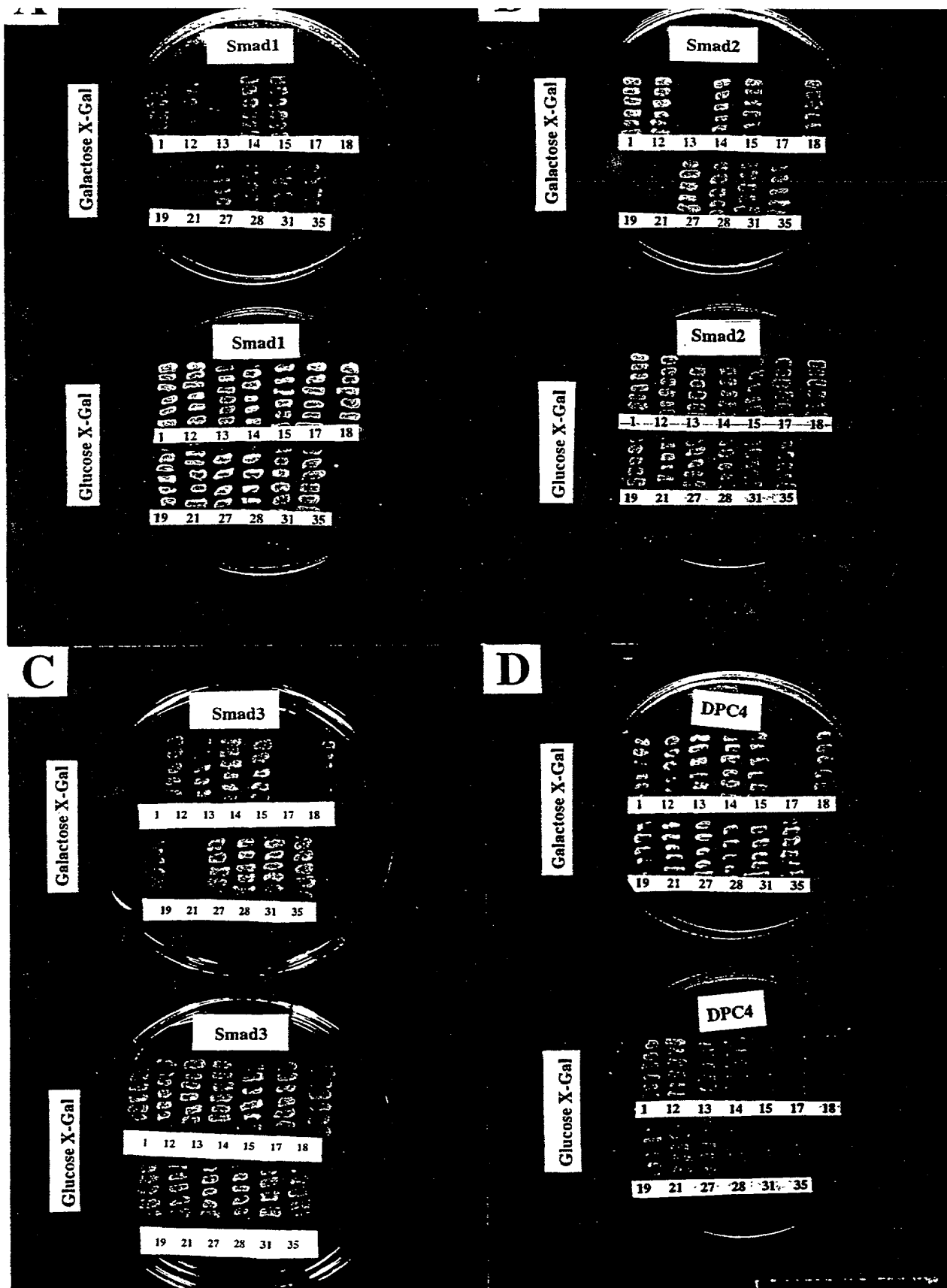


FIGURE 23

FIGURE 24

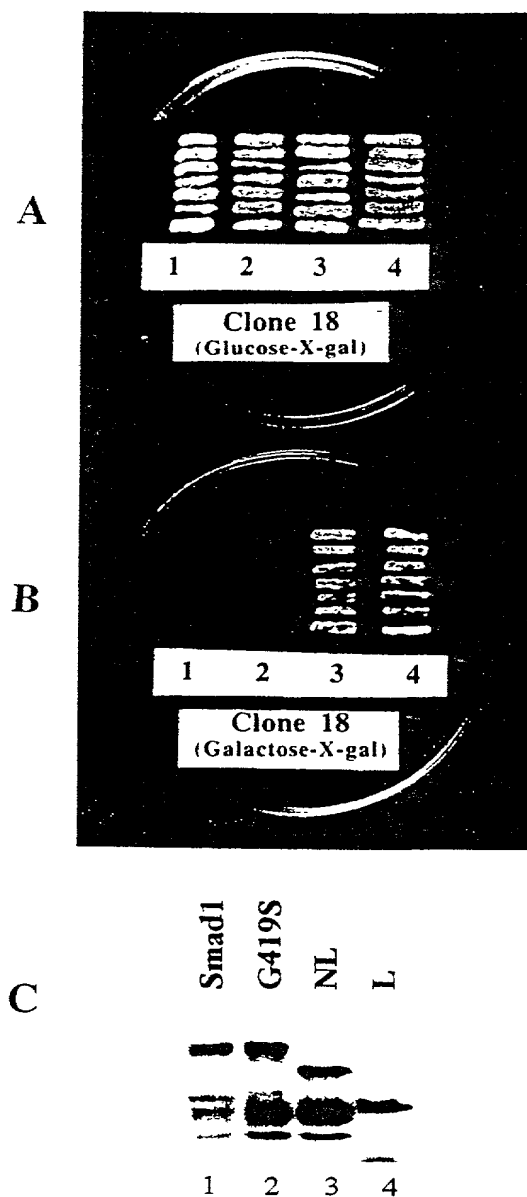




FIGURE 25

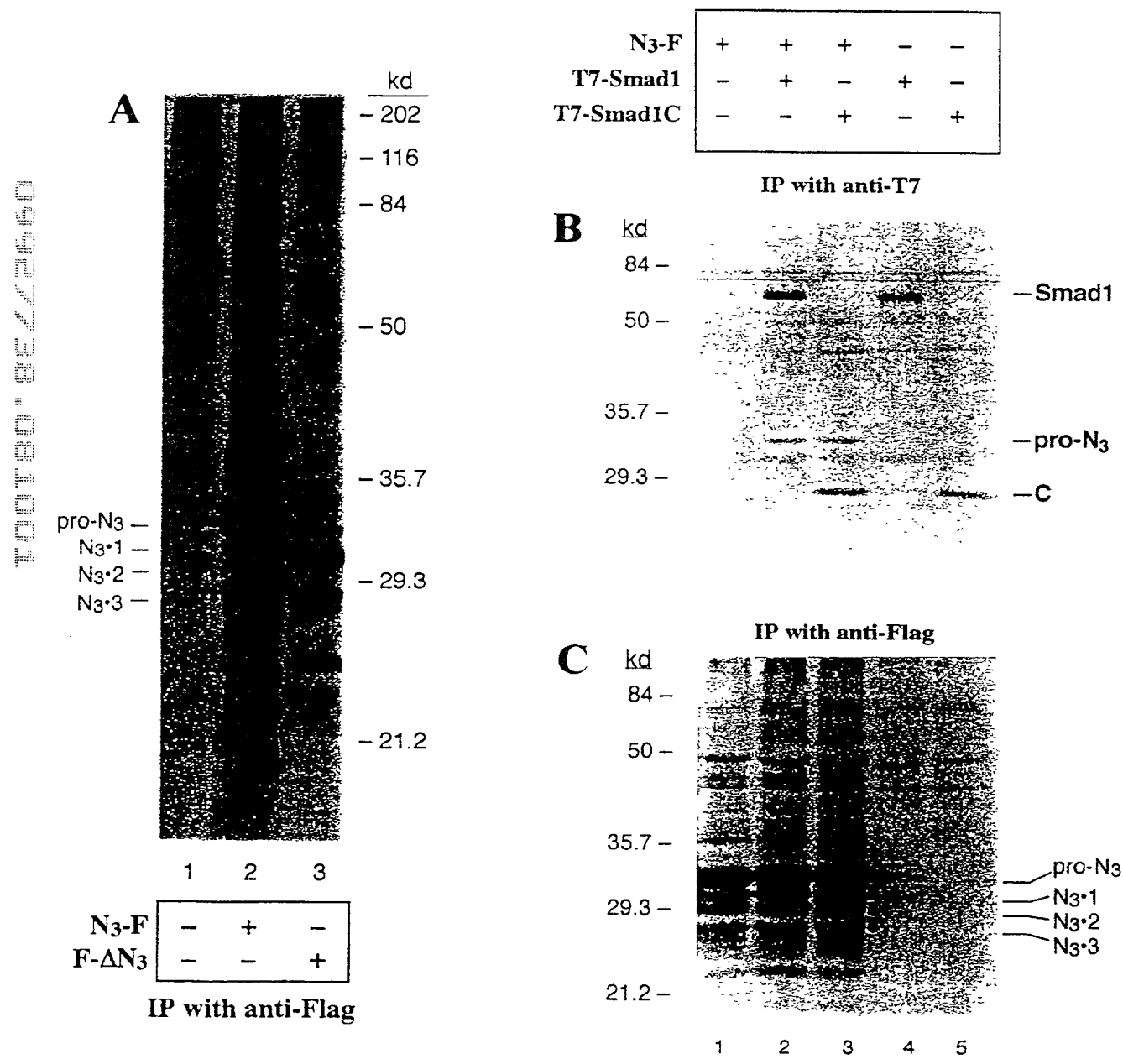


FIGURE 26

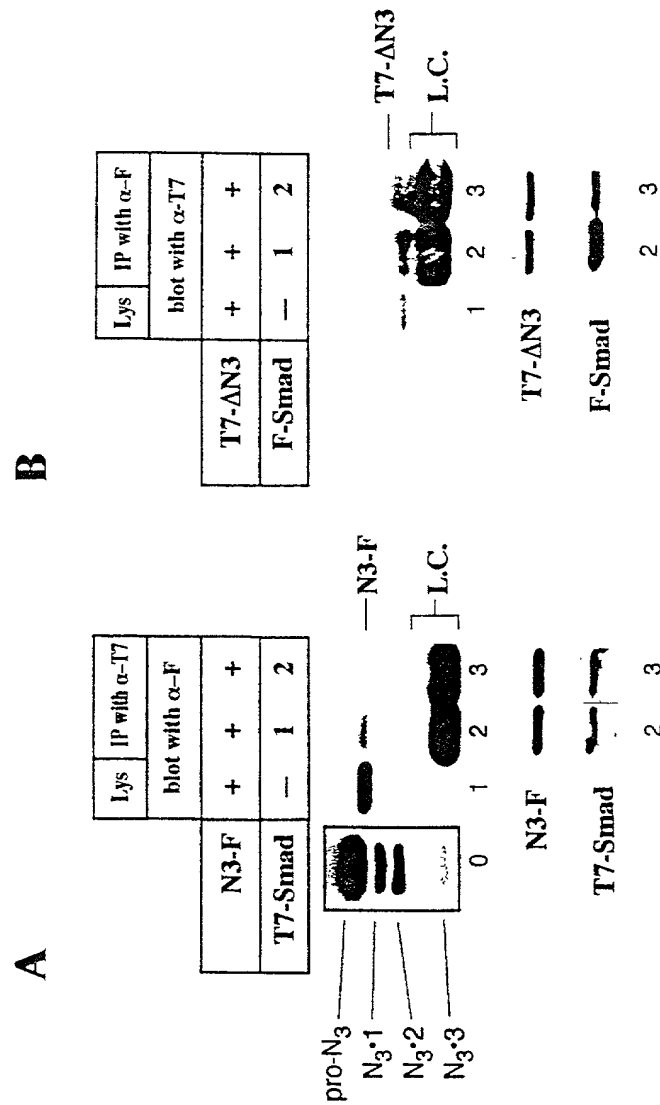
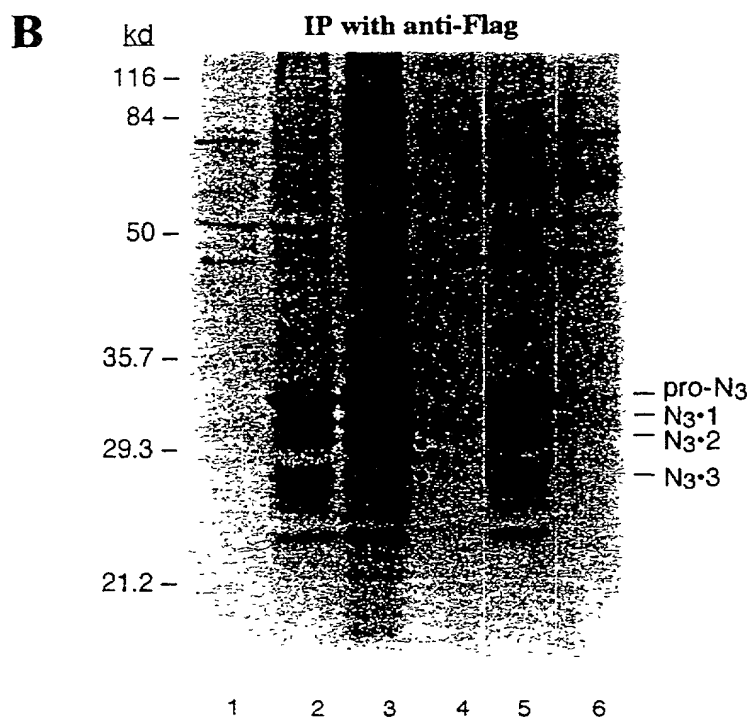
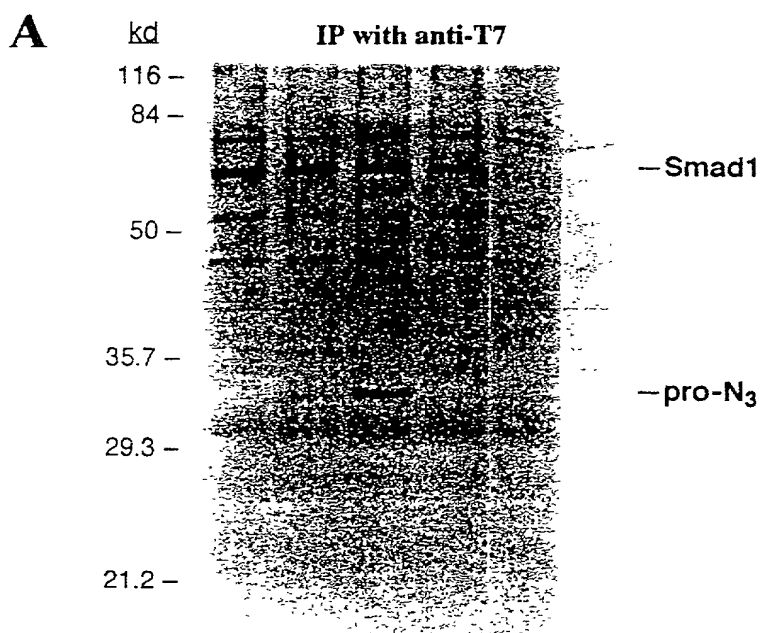
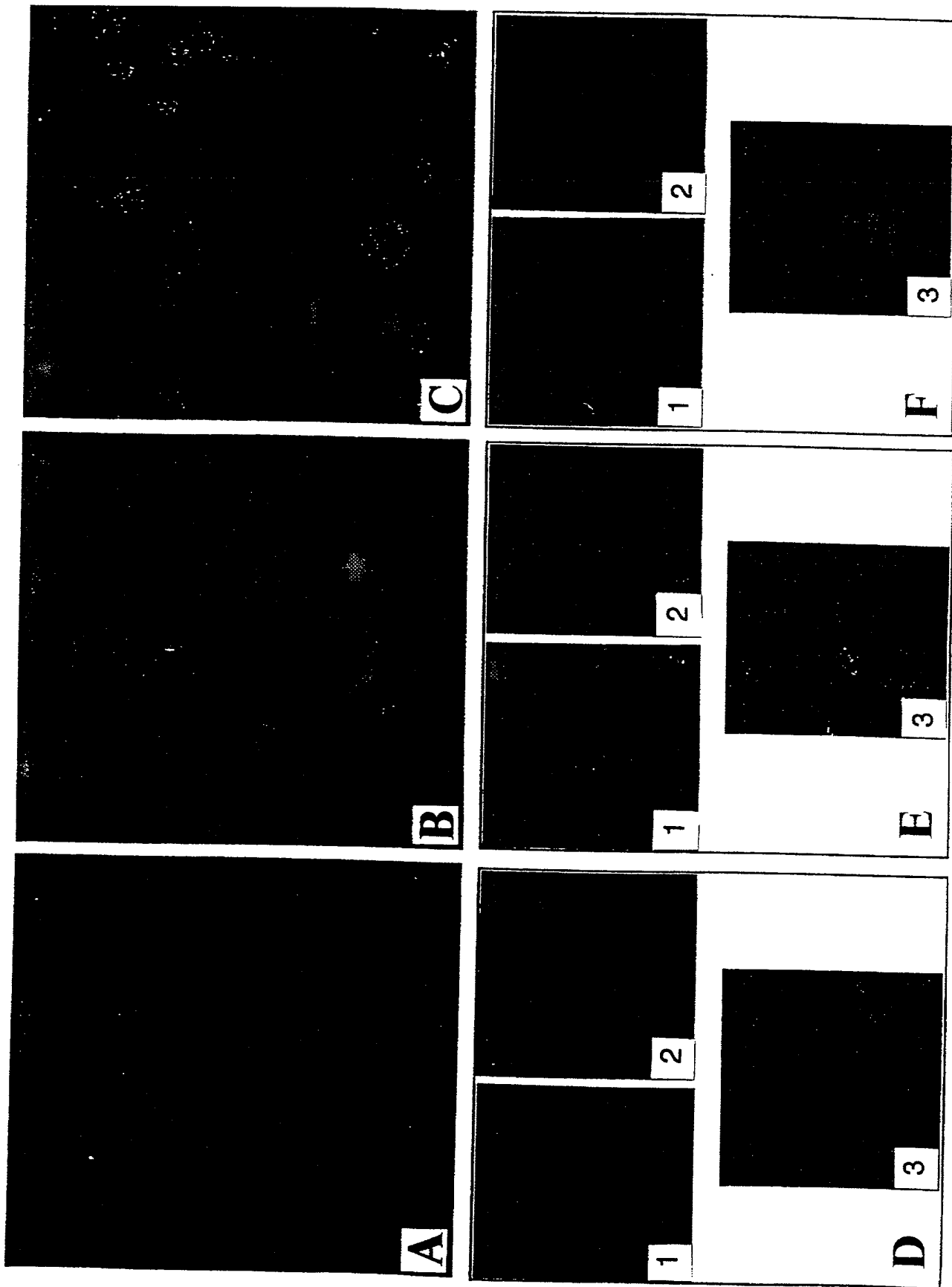
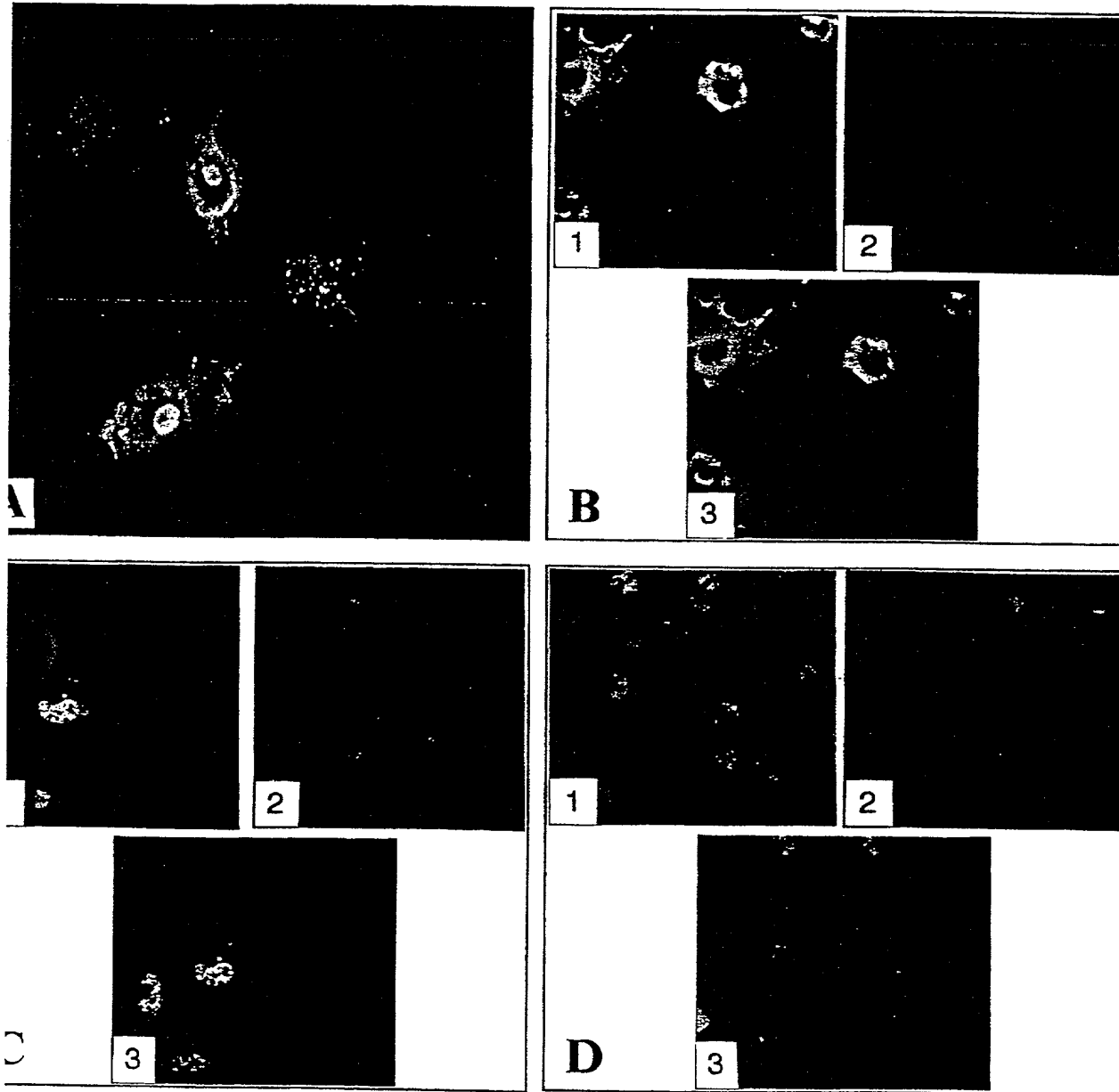


FIGURE 27

N3-F	-	+	+	-	+	-
T7-Smad1	+	+	+	+	-	-
HA-ALK3QD	-	-	+	+	+	+







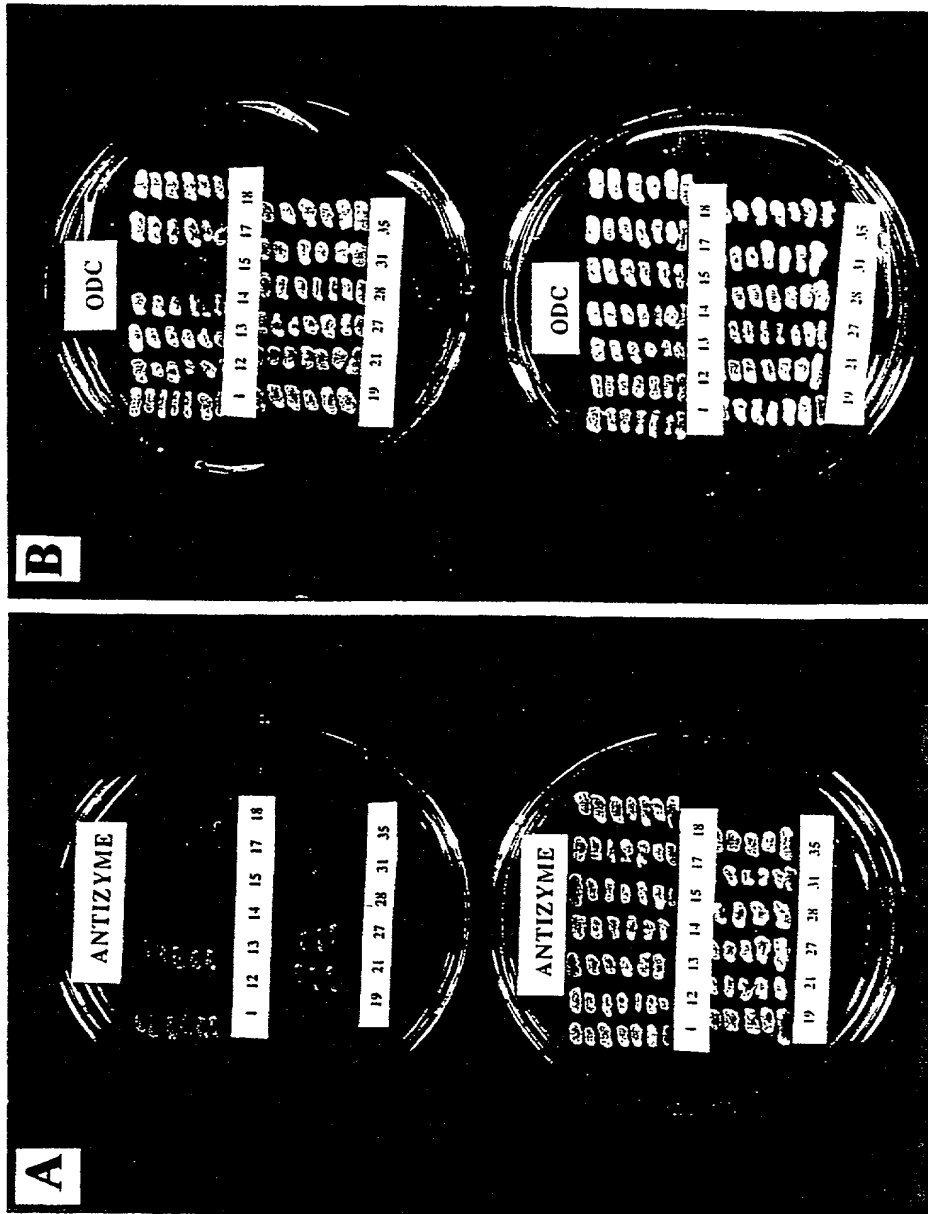


FIGURE 30

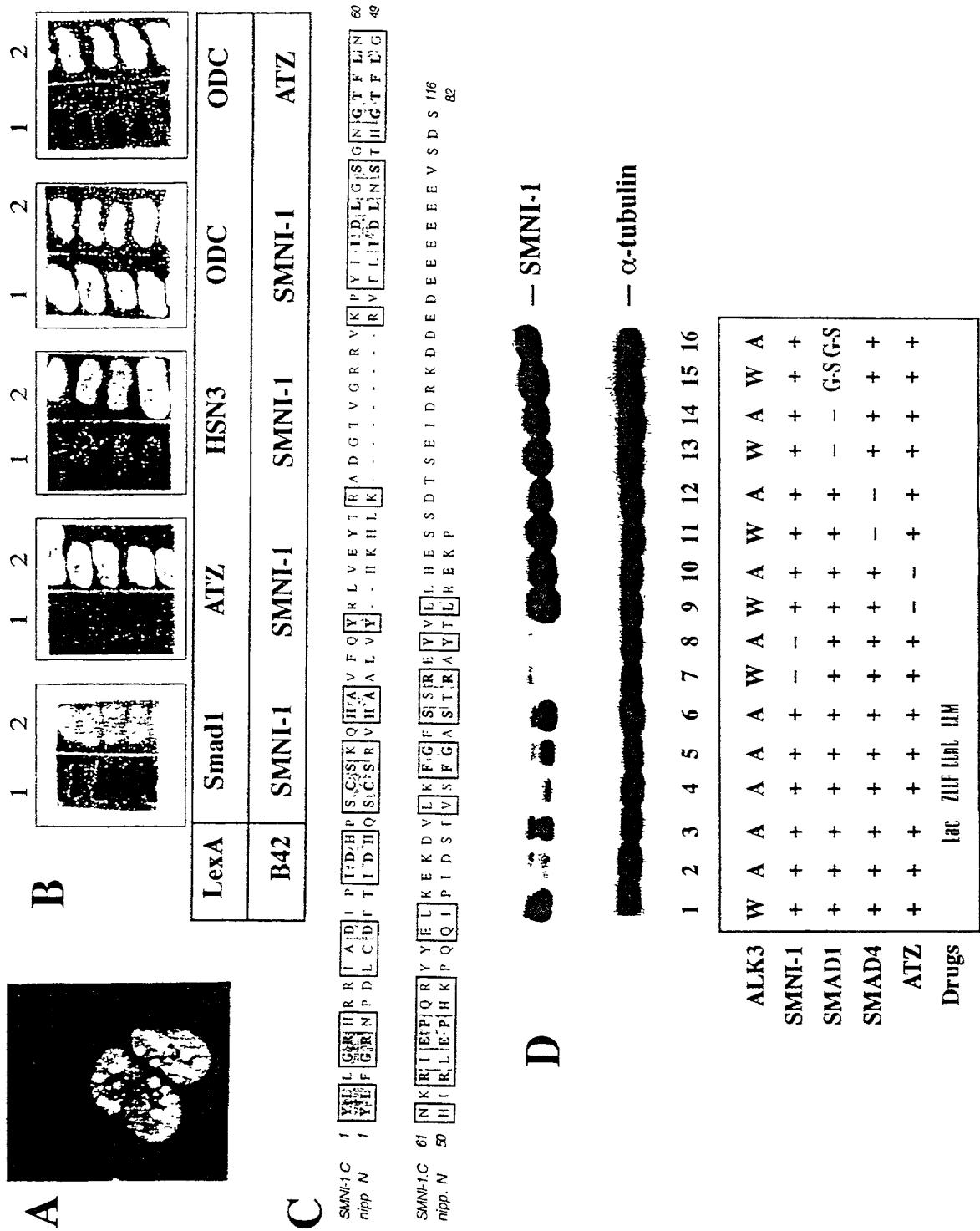


FIGURE 31

FIGURE 32

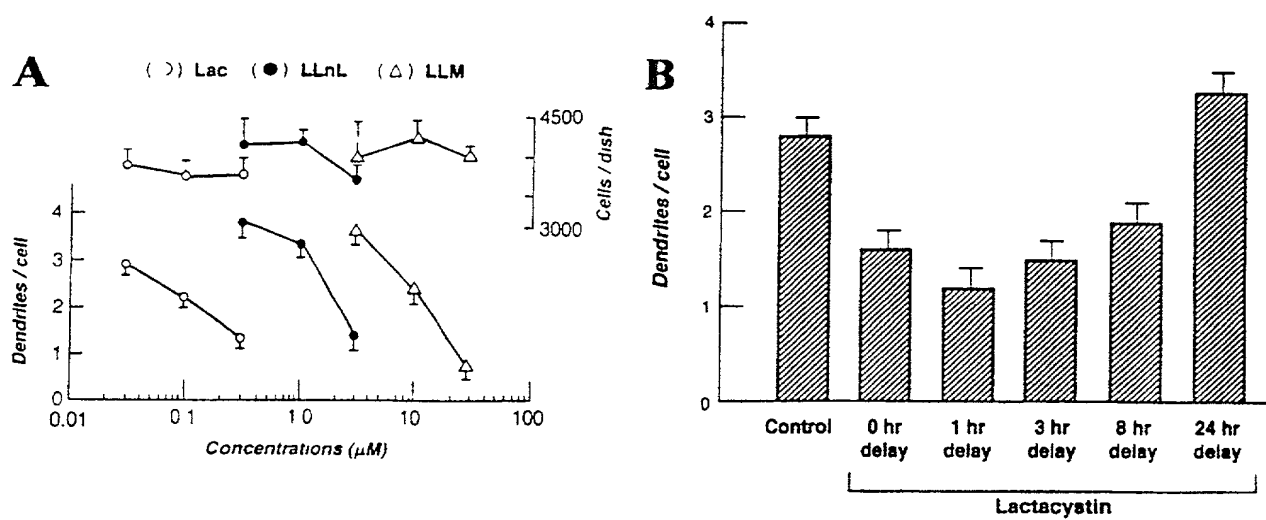
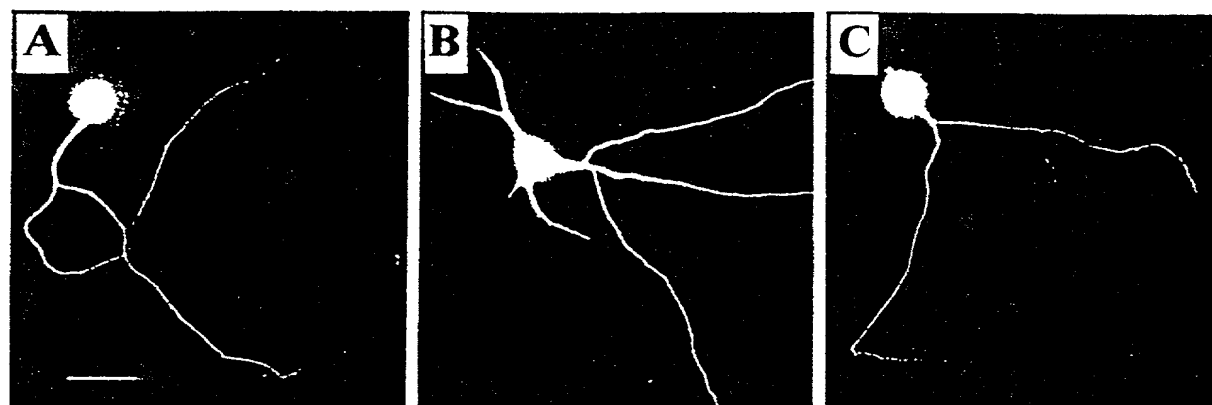
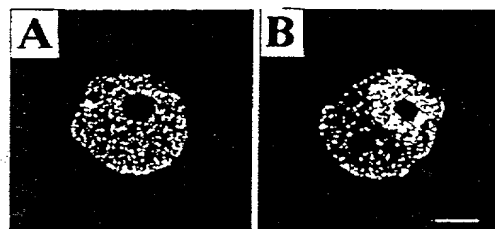




Figure 33

Clone S1+19 cDNA sequence (SEQ ID No. 23)

1 GAGGAGCTCAACTGATCTGTTTTCTTTCGCCCAGCCAAAATCACAGAATG 50  
51 AAGGCGGTGAAGAGCGAACGGGAGCGAGGGAGCCGGCGAAGACACCGGGA 100  
101 CGGGGACGTGGTGCTGCCGGCGGGGGTGGTGGTGAAGCAGGAGCGTCTCA 150  
151 GCCCAGAAGTCGCACCTCCCGCCCACCGCCGTCCGGACCACTCCGGTGGT 200  
201 AGCCCGTCTCCGCCGACCAGCGAGCCGGCCCGCTCGGGCCACCGCGGGAA 250  
251 CCGAGCCCGAGGAGTTAGCCGGTCCCCACCCAAAAAGAAAAACAAGGCCT 300  
301 CAGGGAGAAGAAGCAAGTCTCCTCGCAGTAAGAGAAACCGAAGTCCTCAC 350  
351 CACTCAACAGTCAAAGTGAAGCAGGAGCGTGAGGATCATCCCCGGAGAGG 400  
401 ACGGGAGGATCGGCAGCACAGGGAACCATCAGAACAGGAACACAGGAGAG 450  
451 CTAGGAACAGTGACCGGGACAGACACCGGGGCCATTCCCACCAAAGGAGA 500  
501 ACGTCTAACGAGAGGCCTGGGAGTGGGCAGGGTCAGGGACGGGATCGAGA 550  
551 CACTCAGAACCTGCAGGCTCAGGAAGAAGAGCGGGAGTTTTATAATGCCA 600  
601 GGCGACGGGAGCATCGCCAGAGGAATGACGTTGGTGGTGGCGGCAGTGAG 650  
651 TCTCAGGAGTTGGTTCCTCGGCCTGGTGGCAACAACAAAGAAAAAGAGGT 700  
701 GCCCGCTAAAGAAAAACCAAGCTTTGAACTTTCTGGGGCACTTCTTGAGG 750  
751 ACACCAACACTTTCCGGGGTGTAGTCATTAAATATAGTGAGCCCCCAGAA 800  
801 GCACGTATCCCCAAAAAACGGTGGCGTCTCTACCCATTTAAAAATGATGA 850  
851 GGTGCTTCCAGTCATGTACATACATCGACAGAGTGCGTACCTACTGGGTC 900  
901 GACACCGCCGCATTGCAGACATTCCAATTGATCACCCGTCTTGTTCAAAG 950  
951 CAGCATGCGGTCTTTCAATATCGGCTTGTGGAATATACCCGTGCTGATGG 1000

1001 CACAGTTGGCCGAAGAGTGAAGCCCTACATCATTGACCTTGGCTCAGGCA 1050  
 1051 ATGGAACCTTCTTAAACAACAAACGTATTGAGCCACAGAGATACTATGAA 1100  
 1101 CTAAAAGAAAAGGATGTACTCAAATTTGGATTTCAGTAGCAGAGAATACGT 1150  
 1151 CTTGCTCCATGAGTCGTCGGACACTTCTGAAATAGACAGGAAAGATGACG 1200  
 1201 AGGATGAGGAGGAGGAGGAAGAAGTGTCTGACAGCTAGCAAATAAGAAC 1250  
 1251 CCAAACCTATTGATACACGGTTTCCTTCTTGGAAGTCTTTGATTGACTCAG 1300  
 1301 AGAGCACTATGGTGGTGGGTCCAGCACTATGGTGCTCTCTGTAATGCCTC 1350  
 1351 TTACTGCCTTAAGTCTTTCCTCTGTTGCTGACCAGATTGTGTTACCATTT 1400  
 1401 GAATACACTGACTAATGTTTGTTAACTTTTTCTGTGGCACCTTGGCCAC 1450  
 1451 ATGCCTGCAGGCATTTGTTTTTCAGAACAGTCTCACCAATTACAACACACC 1500  
 1501 GTGTTTTAGTAGAAGTGTTGTGGTTTTAGTTGGTGCTTTCAGAACTGCTG 1550  
 1551 CCTAGGAAACTATAAACCCCTTGGTTAAGGGGAAATCATGGCTTGTTCTCT 1600  
 1601 TTGTACAGTTACTTTATTTATATAGGTGTTAAGCTTTGTGGACCAGGTGT 1650  
 1651 TTTTCTTTTGGGGCGAACCCCTGAGCAGAGAATCTTACTAGGCTTTGGTT 1700  
 1701 ATCACCAAAACAACCTCCAGTATATACCAAAGCTTTGACTTGTTTGAGCT 1750  
 1751 CTTGAGCTTAGAAGTTGATTTTGCACCTATTTTTTTTGGGGGGTGGGAATG 1800  
 1801 TACTGCAGTCAGTAAACATTATTGACTGTTTAACTTAAACAGATGCTTTA 1850  
 1851 TGGCACCTGCTCAAGCCCGTGACTGTACAGAAGGATCCTGGTTGCTACCA 1900  
 1901 GTGGGTGCTGATTTCAGCATCACAAGTGACTGAAATTGGCTGTGGATCTGT 1950  
 1951 TCTTTGTGAAAGAATTCCTGATTTCTCCATGGAGCATGTACACAACAATT 2000  
 2001 TTGATCATATTAACCTGTACTTCAGTTTTGCATTTTTTATTCAAATGTTATC 2050  
 2051 TCTTTTTTTTCTTTGAGAAATAAACTGTCACTGATGTGACAGCGTTCTTTC 2100

2101 TTTATTCTAATAACATGTATAGATCTAAAGCAGGTTGTGTTGTTTACATG 2150  
 2151 TTTCTACACATTTTCATCCTTTAAAAAGTTGTTGAGAGAGGTTGTATTTAC 2200  
 2201 CTTCCCAAGGTTGGAAAGCAGGGGAATTTCCCAGTGTCTAGTTTTCCAC 2250  
 2251 CAGAGGAATATGTGTAAGTAGCAAAGTATTTGCTGCTTACATATAGTGTG 2300  
 2301 TATGTATGTATATATATGTAAATTGTGTGTTAAAGAGCTGATACTGATTTTC 2350  
 2351 ATATGACAATGTTAGGCAAAGGCCTCCCTGCATTTGAAGAGCAGGTTTTTC 2400  
 2401 ATTTATATGTATTTTTTGGGATAAAAAAATAAAATTTGTAAATATAGCCCC 2450  
 2451 CAAA 2496

0592738-084004

Figure 34

Clone S1+12-2 cDNA sequence (SEQ ID No. 24)

1 CCCACGCGTCCGGCCTCGGAGCAGCCATGATGGAAGGCCTGGACGACGGC 50  
51 CCGGACTTCCTCTCAGAAGAGGACCGCGGACTTAAAGCAATAAATGTAGA 100  
101 TCTTCAAAGTGATGCTGCTCTGCAGGTGGACATTTCTGATGCTCTTAGTG 150  
151 AGCGGGATAAAGTAAAATTCACTGTTACACAAAGAGTTCATTGCCAAAT 200  
201 TTAAACAAAACGAGTTTTTCAGTTGTTCTGGCAACATGAGGAATTTATCTG 250  
251 GCTTCATGATTCCTTTGTTGAAAATGAAGACTATGCAGGTTATATCATTC 300  
301 CACCAGCACCACCAAGACCTGATTTTGATGCTTCAAGGGAAAAACTACAG 350  
351 AAGCTTGGTGAAGGAGAAGGGTCAATGACGAAGGAAGAATTCACAAAGAT 400  
401 GAAACAGGAACTGGAAGCTGAATATTTGGCAATATTCAAGAAGACAGTTG 450  
451 CGATGCATGAAGTGTTCTGTGTCGTGTGGCAGCACATCCTATTTTGAGA 500  
501 AGAGATTTAAATTTCCATGTCTTCTTGGAATATAATCAAGATTTGAGTGT 550  
551 GCGAGGAAAAAATAAAAAAGAGAACTTGAAGACTTCTTTAAAAACATGG 600  
601 TTAAATCAGCAGATGGAGTAATCGTTTCAGGAGTAAAGGATGTAGATGAT 650  
651 TTCTTTGAGCACGAACGAACATTTCTTTTGGAGTATCATAACCGAGTTAA 700  
701 GGATGCATCTGCTAAATCTGATAGAATGACAAGATCCCACAAAAGTGCTG 750  
751 CAGATGATTACAATAGAATTGGTTCTTCATTATATGCTTTAGGAACTCAG 800  
801 GATTCTACAGATATATGCAAGTTTTTTCTCAAAGTTTCAGAACTGTTCTGA 850  
851 TAAACAAGAAAAATAGAAGCACGAGTGTCTGCTGATGAAGACCTCAAAC 900  
901 TTTCTGATCTTTTAAATATTACTTAAGAGAATCTCAAGCTGCTAAGGAT 950  
951 CTCCTGTATCGAAGGTCTAGGTCACTAGTGGATTATGAAAATGCTAATAA 1000

1001 AGCACTGGATAAAGCAAGAGCAAAAAATAAAGATGTTCTACAGGCCGAAA 1050  
1051 CTTCCCAACAATTATGTTGTCAGAAATTTGAAAAAATATCTGAGTCTGCA 1100  
1101 AAACAAGAACTTATAGATTTTAAAGACAAGAAGAGTTGCTGCATTCAGAAA 1150  
1151 AAATTTAGTGGAAGTGGCAGAGTTAGAACTGAAGCATGCAAAGGGTAATC 1200  
1201 TACAGTTGCTGCAGAACTGCCTGGCAGTGTTAAATGGAGACACATAAGCC 1250  
1251 ACACTCCGCCTTCCTGTTAAAAAGGGCTGCCTTCCTTCAAATTTTATTTT 1300  
1301 TGTTTTCTTAATGATGTTAAGCATTTATGCTCACTGGAAACAAACAAAAA 1350  
1351 GCAGCTGAAAAAGTGCATCAACTCCTCTTTTTCTGAGAAACATGGAGCAG 1400  
1401 CGCACGCCCAGGCGATGCCAGTCTGTGTGCCGTGATGCCGCACTGTGTTC 1450  
1451 CCCATGACAGTGGTCCATCATCGTGCACTCGTCATACTCAGAAGTCCAAA 1500  
1501 GTTCATTCTTCTTTAAAGTAGCCTCTATAACTCTGTTTATTTTATAAATA 1550  
1551 GTATTCCTTATGGCTGCCACTCTTATTTACCTTTAAATAAATTTCTGAAAT 1600  
1601 TTAACCTTTTCAGAATGCATTGTTGAAACAAGATAAAGATTGCCTTTTTTT 1650  
1651 GAATTTTTTTAAATTTTGTTTTTTAAAGCATATACCACCTTAGTTCATTCA 1700  
1701 TGTATCCTGGTAAAGCATCTTAATCAGACTTATTTTTTAATTACTGAATAT 1750  
1751 TTCTTAGACGTTTTGGGACAGATTTTATGTAATCTTTATAAGTATGATTT 1800  
1801 CTGAAGAAAAGCAAATGCATTAGTATGTTTGCCTTAAACTTGTTAGACTAA 1850  
1851 ACCAAGTATTGTAAAATAAACAGCGATAACAGTGATAGTTTTTAACTCTA 1900  
1901 TGGTCATTGTATCACTCTGAAAATGTGGAGTAGCTGTAATAAATCTACT 1950  
1951 CCTGTATTATGCTTT 1965

Figure 35

Clone S1+12-5 cDNA sequence (SEQ ID No. 25)

1 GCGGCGCCGAGTCCCGGGAGCGCGGTGGGGGCAGCGGGCGCGGGGCGGGC 50  
51 GCGGGGACCGCGCCAGCCTGTCACTAATGTCTCCCTTTGTGTCTCCCCCA 100  
101 TCTCATCCTTTTCCCCGGCGCGCCGTGCCCCGCCGACCCACAGGAAGGCC 150  
151 TGGACGACGGCCCGGACTTCCTCTCAGAAGAGGACCGCGGACTTAAAGCA 200  
201 ATAAATGTAGATCTTCAAAGTGATGCTGCTCTGCAGGTGGACATTTCTGA 250  
251 TGCTCTTAGTGAGCGGGATAAAAGTAAAATTCAGTGTTACACAAAGAGTT 300  
301 CATTGCCAAATTTTAAACAAAACGAGTTTTTCAGTTGTTTCGGCAACATGAG 350  
351 GAATTTATCTGGCTTCATGATTCCTTTGTTGAAAATGAAGACTATGCAGG 400  
401 TTATATCATTCCACCAGCACCACCAAGACCTGATTTTGATGCTTCAAGGG 450  
451 AAAA ACTACAGAAGCTTGGTGAAGGAGAAGGGTCAATGACGAAGGAAGAA 500  
501 TTCACAAAGATGAAACAGGA ACTGGAAGCGGGTTGGATAACAGAGAACCT 550  
551 TGGGTTTATTCTACTGCTACCTCCATCCTCTGCATCCTTCTTTTTTGTCT 600  
601 TCACTGAATGACTACCCTCACAGAGATCAA ACTTCTCCCATCATTGGTCC 650  
651 TGCTGGTTTGCTGTGAATATTTGGCAATATTCAAGAAGACAGTTGCGATG 700  
701 CATGAAGTGTTCTGTGTCGTGTGGCAGCACATCCTATTTTGAGAAGAGA 750  
751 TTAAATTTCCATGTCTTCTTGGAATATAATCAAGATTTGAGTGTGCGAG 800  
801 GAAAAAATAAAAAAGAGAACTTGAAGACTTCTTTAAAAACATGGTTAAA 850  
851 TCAGCAGATGGAGTAATCGTTTCAGGAGTAAAGGATGTAGATGATTTCTT 900  
901 TGAGCACGAACGAACATTTCTTTTGGAGTATCATAACCGAGTTAAGGATG 950  
951 CATCTGCTAAATCTGATAGAATGACAAGATCCCACAAAAGTGCTGCAGAT 1000

1001 GATTACAATAGAATTGGTTCTTCATTATATGCTTTAGGAACTCAGGATTC 1050  
1051 TACAGATATATGCAAGTTTTTCTCAAAGTTTCAGAACTGTTTCGATAAAA 1100  
1151 CAAGAAAAATAGAAGCACGAGTGTCTGCTGATGAAGACCTCAAACCTTCT 1150  
1201 GATCTTTTAAAATATTACTTAAGAGAATCTCAAGCTGCTAAGGATCTCCT 1200  
1251 GTATCGAAGGTCTAGGTCAGTAGTGGATTATGAAAATGCTAATAAAGCAC 1250  
1301 TGGATAAAGCAAGAGCAAAAAATAAAGATGTTCTACAGGCCGAAACTTCC 1300  
1351 CAACAATTATGTTGTCAGAAATTTGAAAAAATATCTGAGTCTGCAAAACA 1350  
1401 AGAACTTATAGATTTTAAGACAAGAAGAGTTGCTGCATTCAGAAAAAATT 1400  
1451 TAGTGGAAGTGGCAGAGTTAGAACTGAAGCATGCAAAGGGTAATCTACAG 1450  
1501 TTGCTGCAGAACTGCCTGGCAGTGTAAATGGAGACACATAAGCCACACT 1500  
1551 CCGCCTTCCTGTAAAAAGGGCTGCCTTCCTTCAAATTTTATTTTGTTC 1550  
1601 TCTTAATGATGTTAAGCATTTATGCTCACTGGAAACAAACAAAAAGCAGC 1600  
1651 TGAAAAAGTGCATCAACTCCTCTTTTTCTGAGAAACATGGAGCAGCGCAC 1650  
1701 GCCCAGGCGATGCCAGTCTGTGTGCCGTGATGCCGCACTGTGTTCCCAT 1700  
1751 GACAGTGGTCCATCATCGTGCACTCGTCATACTCAGAAGTCCAAAGTTCA 1750  
1801 TTCTTCTTTAAAGTAGCCTCTATAACTCTGTTTATTTTATAAATAGTATT 1800  
1851 CCTTATGGCTGCCACTCTTATTTACCTTTAAATAATTTCTGAAATTTAAC 1850  
1901 CTTTTCAGAATGCATTGTTGAAACAAGATAAAGATTGCCTTTTTTTGAATT 1900  
1951 TTTTAAATTTTGTTTTTAAAAGCATATACCACCTTAGTTCATTCATGTAT 2000  
2001 CCTGGTAAAGCATCTTAATCAGACTTATTTTAAATTACTGAATATTTCTT 2050  
2151 AGACGTTTTGGGACAGATTTTATGTAATCTTTATAAGTATGATTTCTGAA 2100  
3001 GAAAAGCAAATGCATTAGTATGTTTGCCTTAAACTTGTAGACTAAACCAA 2150

3151 GTATTGTAAAATAAACAGCGATAACAGTGATAGTTTTTAACTCTATGGTC 2200  
3201 ATTGTATCACTCTGGAAAATGTGGAGTAGCTGTAATAAATCTAATCCTGT 2250  
3251 ATTATGCTTTAAA 2300  
3301 AAAAAAAAAAAAAAAAAA 3319



Figure 36

clone S1+27 cDNA sequence (SEQ ID No. 26)

1 GTCGACCCACGCGTCCGGCGGGCCGTGGGAGGGTCCCGAGGTGGGGGTCG 50  
51 GGGCGGGATGGCTGCAGCGGCGGCCGGGGCCGGGAGCGGGCCCTGGGCGG 100  
101 CCCAGGAGAAGCAGTTCCCGCCGGCGCTGCTGAGTTTCTTCATCTACAAC 150  
151 CCGCGCTTCGGGCGCGCGAAGGACAGGAGGAAAATAAGATTTTATTTTA 200  
201 TCATCCAAATGAGGTAGAAAAGAATGAGAAGATTAGAAATGTCGGATTGT 250  
251 GTGAAGCTATTGTACAGTTTACAAGGACATTTAGCCCATCAAAACCTGCA 300  
301 AAATCTTTACATACACAGAAGAACAGACAGTTCTTCAATGAACCAGAAGA 350  
351 AAATTTCTGGATGGTCATGGTTGTTTCGGAATCCTATAATTGAAAAACAGA 400  
401 GTAAAGATGGAAAACCAGTTATTGAATATCAAGAGGAGGAGTTGTTGGAC 450  
451 AAGGTTTATAGCTCGGTGCTGCGGCAGTGCTACAGCATGTACAAGCTTTT 500  
501 TAATGGTACATTTCTGAAAGCCATGGAAGACGGAGGCGTCAAGCTTCTGA 550  
551 AAGAAAAATTAGAGAAATTCTTCCATCGGTATTTGCAAACGCTACATTTG 600  
601 CAGTCATGTGACCTACTTGACATTTTTTGGTGGAAATCAGCTTCTTCCCGTT 650  
651 GGATAAAATGACTTATTTGAAAATCCAGTCCTTTATTAATAAGAATGGAG 700  
701 GAAAGCCTGAATATAGTCAAATACACTGCTTTTCTCTATAACGATCAGCT 750  
751 CATCTGGAGTGGATTAGAACAAGATGACATGAGAATTTTATACAAATACC 800  
801 TTACCACCTCCCTTTTCCCAAGGCACATCGAACCTGAGTTAGCAGGAAGG 850  
851 GATTCTCCAATAAGAGCAGAAATGCCAGGAAATCTTCAACACTATGGAAG 900  
901 ATTTCTTACCGGACCCTTGAACCTCAATGATCCAGATGCAAAATGCAGAT 950  
951 TCCCCAAAATTTTTGTAAATACAGATGACACTTATGAAGAGCTCCATTTA 1000

1001 ATCGTTTATAAGGCCATGAGTGCGGCTGTGTGCTTTATGATCGACGCCTC 1050  
1051 TGTCCACCCAACGTTGGATTTTTGCCGAAGACTGGACAGCATCGTTGGGC 1100  
1101 CCCAGCTCACAGTGCTGGCCTCTGACATCTGTGAACAGTTTAACATCAAC 1150  
1151 AAGAGGATGTCCGGGTCTGAGAAAGAACCCAGTTTAAGTTTATCTACTT 1200  
1201 CAACCACATGAATCTCGCCGAGAAGAGCACAGTTCACATGAGGAAAACGC 1250  
1251 CCAGCGTGTCGCTCACTTCCGTGCACCCGGATTTAATGAAGATTCTCGGT 1300  
1301 GACATCAACAGTGACTTTACCAGAGTGGATGAAGATGAGGAGATCATTGT 1350  
1351 GAAGGCCATGAGTGATTACTGGGTGTGTTGGAAAGAAGTCTGATCGGCGGG 1400  
1401 AGCTCTATGTTATTTTGAATCAAAAAAATGCAAACCTGATTGAAGTAAAT 1450  
1451 GAGGTCAAGAACTTTGTGCAACGCAGTTCAACAACATCTTCTTCTTGGA 1500  
1501 TTGACGGATGACGGCTCACTGAGAGCATATCTAAAAAACACTCTGCAAAC 1550  
1551 ATTTGGTCACATGCAAGTTAGTGGTCATATGACGGACTGCATTTCAGGACA 1600  
1601 AGGGTAAAGCAATACTTGCTTTGAAGAATCACATTTGACTCGGTCTGCT 1650  
1651 GATCTGAGGTTTTTAGATTTTAAATATTTATGTGGAATTAATTAAAGGTA 1700  
1701 GTTGGCTATATCGCTATCATTTCACTTTTGACATTATGTGAATATTTT 1750  
1751 ACTGGAAAATAAGACTAATAAATTGTTAAAAGTTTTTAAAAAAAAAAAAAA 1800  
1801 AAAAAAAAAAAAAAAAAAAAAAAAAAAGGGCGGCC 1834

Figure 37

clone S1+28 cDNA sequence (SEQ ID No. 27)

1 GTTTGCAGTTGATGCTAAGGCCTTGCCTCAGAATAAGCCAAGGCCTCTCA 50  
51 CTCAAGAAGAAATTGCTCAGAGACGTGAGCGTGCAAGACAAAGGCATGCA 100  
101 GAGAAGCTTGCAGCAGCACAGGGACAGGCACCCTTGGAGCCCACCCAAGA 150  
151 TGGGAGTGCCATTGAAACATGTCCAAAAGGAGACGAGCCAAGAGGTGACG 200  
201 AGCAACAGGTGGAAAGTATGACCCCTAAACCTGTGCTCCAGGAAGAAAAC 250  
251 AACCAAGAGTCTTTTATTGCATTTGCTCGGGTGTTCAAGTGGTGTGGCTCG 300  
301 AAGAGGAAAGAAAATTTTTGTCTTGGGGCCCAAATACAGTCCTCTTGAGT 350  
351 TTTTACGAAGGGTACCATTATGCTTCTCAGCTCCACCAGATGGCCTCCCC 400  
401 CAAGTCCCCCACATGGCATACTGTGCTCTGGAAAACCTGTATCTTCTGAT 450  
451 GGGAAGGGAACTGGAATATCTAGAGGAGGTACCTCCAGGAAATGTGCTAG 500  
501 GAATAGGAGGCCTTCAAGATTTTGTGCTGAAATCTGCAACACTGTGTAGC 550  
551 CTGCCATCCTGCCCACCATTTATACCACTCAACTTCGAAGCCACTCCTAT 600  
601 TGTGAGAGTTGCTGTTGAACCAAAACATCCAAGTGAAATGCCTCAGCTCG 650  
651 TAAAAGGAATGAAACTGTTAAACCAGGCTGATCCCTGTGTCCAGATTTTA 700  
701 ATTCAGGAAACGGGAGAGCACGTTTTAGTCACAGCAGGAGAAGTCCACCT 750  
751 TCAGCGATGCCTGGATGACTTAAAAGAAAGGTTTGCAAAGATTCATATCA 800  
801 GTGTATCTGAACCTATTATTCCATTGAGAGAAACAATCACAAAACCCCCA 850  
851 AAAGTTGACATGGTCAATGAAGAAATAGGCAAACAGCAAAAAGTTGCAGT 900  
901 CATAACCAAATGAAAGAAGATCAAAGCAAAATCCCTGAAGGAATCCAAG 950  
951 TTGACTCTGACGGGCTAATCACCATAACAACCTCCCAATAAACTTGCCACG 1000

1001 CTCAGTGTTCGAGCCATGCCCCTTCCAGAAGAAGTCACCCAGATTCTGGA 1050  
1051 AGAAAATAGTGATTTGATTTCGTTCTATGGAGCAGTTGACATCCTCTTTGA 1100  
1101 ATGAGGGTGAAAATACTCACATGATTCATCAGAAGACCCAAGAGAAAATT 1150  
1151 TGGGAATTCAAAGGAAAACCTGGAGCAACACCTAACAGGGAGAAGATGGAG 1200  
1201 GAACATTGTTGACCAAATCTGGTCATTTGGCCCAAGAAAATGTGGGGCCCA 1250  
1251 ACATACTAGTCAATAAAAAGTGAAGATTTTCAGAACTCAGTATGGACAGGT 1300  
1301 CCAGCTGACAAAGCTTCAAAGAAGCCAGTAGATACCGAGATTTGGGCAA 1350  
1351 TAGCATTGTGAGTGGCTTCCAACCTAGCAACCCTCTCTGGCCCCATGTGTG 1400  
1401 AGGAGCCTCTCATGGGTGTCTGTTTTGTTCTGGAAAAATGGGACCTAAGT 1450  
1451 AAATTTGAGGAACAAGGAGCAAGTGATCTGGCAAAAGAGGACAGGAGGAA 1500  
1501 AATGAAACCTGTTCTGGTGGAAATGAAAACCAAGAGCTACAAGATGGCTG 1550  
1551 CTCTGAGGCCTTTGAGAAGAGGACATCACAGAAAGGAGAATCTCCACTCA 1600  
1601 CTGACTGCTATGGACCTTTCTCAGGACAGCTAATTGCCACCATGAAAGAA 1650  
1651 GCATGTCGCTATGCACTGCAAGTGAAACCTCAGCGCCTGATGGCAGCTAT 1700  
1701 GTACACATGTGACATCATGGCCACTGGTGATGTTCTCGGTGAGTCTATG 1750  
1751 CTGTCTTGTCAAAGAGAGAAGGTCGGGTACTTCAAGAAGAAATGAAAGAA 1800  
1801 GGGACAGACATGTTTCATCATCAAGGCTGTGCTGCCTGTTGCTGAAAGCTT 1850  
1851 TGGTTTTGCTGATGAAATCAGGAAGAGGACAAGTGGCCTGGCCAGCCCAC 1900  
1901 AACTAGTATTCAGCCATTGGGAGATCATTCCCAGTGACCCTTCTGGGTGC 1950  
1951 CAACTACTGAGGAGGAATACTTGCACTTTGGGGAGAAGGCTGACTCTGAG 2000  
2001 AACCAAGCCCGGAAGTACATGAACGCAGTACGAAAGCGGAAGGGGCTTTA 2050  
2051 TGTGGAAGAAAAGATTGTGGAGCATGCAGAAAAGCAGAGGACACTCAGCA 2100

2101 AAAATAAGTAGCTACCTACTACTGGTGGATTCTTTTCCTTATAGTGAATT 2150  
2201 TAAAAGTATCATCAAGGGTTTAATATTGGGAAAATTTCTTTTGGCCACAT 2250  
2251 TATCTCTGTTTATTCACTTTCAATAAAAGTTGATCCATATAAATATTTTAA 2300  
2301 AGAGGATGTTAAAAAAAAAAAAAAAAA 2327

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